

## POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern stand- ard time	Heliographic			Area		Total area for each day	Observatory
		Diff. in longi- tude	Longi- tude	Lati- tude	Spot	Group		
	<i>h m</i>	<i>°</i>	<i>°</i>	<i>°</i>				
Mar. 13.....	10 57	-22.0	274.7	+2.0	-----	170	-----	U. S. Naval.
		-17.0	279.7	-17.0	-----	93	-----	
		+51.0	347.7	-27.5	-----	15	-----	
		+67.0	363.7	+25.0	-----	15	293	
Mar. 14.....	11 23	-70.0	213.3	+23.0	39	-----	-----	Do.
		-8.0	275.3	+1.5	-----	139	-----	
		-4.0	279.3	-16.5	-----	108	-----	
		+65.0	348.3	-27.0	-----	77	363	
Mar. 15.....	11 6	-56.0	214.3	+22.5	62	-----	-----	Do.
		+4.5	274.8	+1.5	-----	93	-----	
		+9.0	279.3	-16.5	-----	77	232	
Mar. 16.....	11 27	-40.0	216.9	+22.5	-----	77	-----	Do.
		+4.0	260.9	+30.0	-----	93	-----	
		+18.5	275.4	+1.0	-----	62	-----	
		+20.0	276.9	-15.5	-----	62	294	
Mar. 18.....	11 24	-12.0	218.6	+22.5	-----	23	-----	Do.
		+30.0	260.6	+30.0	-----	108	-----	
		+48.0	278.6	+1.0	54	-----	185	
Mar. 20.....	11 7	-68.0	136.4	-21.5	-----	39	-----	Do.
		+56.5	260.9	+31.0	-----	93	132	
Mar. 21.....	13 15	-54.0	136.0	-21.0	-----	62	-----	Do.
		+70.0	260.0	+31.0	-----	100	162	
Mar. 22.....	13 48	-39.0	137.5	-22.0	-----	54	54	Do.
Mar. 23.....	10 45	-27.0	137.9	-22.0	-----	32	32	Mt. Wilson.
Mar. 24.....	13 30	-17.0	133.3	-22.0	-----	7	7	Do.
Mar. 25.....	11 5	-31.0	107.4	-34.0	-----	9	9	Do.
Mar. 26.....	10 22	No spots			-----			U. S. Naval.
Mar. 27.....	11 39	No spots			-----			Do.
Mar. 28.....	10 45	No spots			-----			Mt. Wilson.
Mar. 29.....	11 20	No spots			-----			U. S. Naval.
Mar. 30.....	11 7	No spots			-----			Do.
Mar. 31.....	9 15	No spots			-----			Mt. Wilson.
Mean daily area for 29 days.....							118	

## PROVISIONAL SUN-SPOT RELATIVE NUMBERS, MARCH 1935

(Dependent alone on observations at Zurich and its station at Arosa)

[Data furnished through the courtesy of Prof. W. Brunner, Eidgen. Sternwarte, Zurich, Switzerland]

March 1935	Relative numbers	March 1935	Relative numbers	March 1935	Relative numbers
1.....	19	11.....	Wc 34	21.....	25
2.....		12.....	44	22.....	17
3.....	a 20	13.....	56	23.....	12
4.....		14.....	da 72	24.....	8
5.....	17	15.....	aa 68	25.....	8
6.....	15	16.....	Mc 50	26.....	8
7.....	8	17.....	43	27.....	7
8.....	8	18.....	33	28.....	0
9.....	d 17	19.....	Ec 40	29.....	
10.....	Ec 27	20.....	35	30.....	0
				31.....	

Mean, 27 days = 25.6

a = Passage of an average-sized group through the central meridian.  
 c = New formation of a center of activity: *E*, on the eastern part of the sun's disk; *W*, on the western part; *M*, in the central zone.  
 d = Entrance of a large or average-sized center of activity on the east limb.

## AEROLOGICAL OBSERVATIONS

[Aerological Division, D. M. LITTLE, in Charge]

By L. T. SAMUELS

Free-air temperatures during March averaged below normal at the western stations and above normal elsewhere, at stations where a sufficient period of previous record made it possible to determine departures. (See table 1.) The magnitudes of the departures ranged from moderate to large in most cases. The lowest average temperatures for the month occurred at the highest levels over the extreme Northwest. Free-air relative humidity departures were small in most cases, the largest being negative and occurring over San Diego.

The directions of the resultant winds for the month at 1,000 meters above sea level were close to the normal over the Pacific coast stations, but were more southerly than normal over the Plains States and southward from the Great Lakes. (See table 2.) A greater northerly component than normal occurred over Sault Ste. Marie and Boston. The velocities of the resultant winds at this level were mostly in excess of the normal, with

greatest departures over Oklahoma City, Murfreesboro, and Key West.

At 3,000 meters the directions of the resultant winds were westerly as compared to the normal west-north-westerly, over the central and north-central sections. At Key West they were easterly as compared to the normal westerly. The velocities were generally above normal over the more northern sections and below normal over the southern sections.

At 5,000 meters there was an excess of northerly components as compared to the normal over the middle Pacific coast region, and an excess of southerly components over the more eastern Rocky Mountain stations. The velocities exceeded the normal resultants over the western Plateau, the lower Plains States, and the north-eastern section of the country, with the largest departures over the extreme northern stations.